

```
1 // This source code is subject to the terms of the Mozilla Public License 2.0 at https://mozilla.org/MPL/
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3
4 //@version=4
5 study("Cumulative Delta Volume", "CDV")
6 linestyle = input(defval = 'Candle', title = "Style", options = ['Candle', 'Line'])
7 hacandle = input(defval = true, title = "Heikin Ashi Candles?")
8 showma1 = input(defval = false, title = "SMA 1", inline = "ma1")
9 mallen = input(defval = 50, title = "", minval = 1, inline = "ma1")
10 ma1col = input(defval = color.lime, title = "", inline = "ma1")
11 showma2 = input(defval = false, title = "SMA 2", inline = "ma2")
12 ma2len = input(defval = 200, title = "", minval = 1, inline = "ma2")
13 ma2col = input(defval = color.red, title = "", inline = "ma2")
14 showema1 = input(defval = false, title = "EMA 1", inline = "ema1")
15 ema1len = input(defval = 50, title = "", minval = 1, inline = "ema1")
16 ema1col = input(defval = color.lime, title = "", inline = "ema1")
17 showema2 = input(defval = false, title = "EMA 2", inline = "ema2")
18 ema2len = input(defval = 200, title = "", minval = 1, inline = "ema2")
19 ema2col = input(defval = color.red, title = "", inline = "ema2")
20 colorup = input(defval = color.lime, title = "Body", inline = "bcol")
21 colordown = input(defval = color.red, title = "", inline = "bcol")
22 bcolup = input(defval = #74e05e, title = "Border", inline = "bocol")
23 bcoldown = input(defval = #ffad7d, title = "", inline = "bocol")
24 wcolup = input(defval = #b5b5b8, title = "Wicks", inline = "wcol")
25 wcoldown = input(defval = #b5b5b8, title = "", inline = "wcol")
26
27 tw = high - max(open, close)
28 bw = min(open, close) - low
29 body = abs(close - open)
30
31 _rate(cond) =>
32     ret = 0.5 * (tw + bw + (cond ? 2 * body : 0)) / (tw + bw + body)
33     ret := nz(ret) == 0 ? 0.5 : ret
34     ret
35
36 deltaup = volume * _rate(open <= close)
37 deltadown = volume * _rate(open > close)
38 delta = close >= open ? deltaup : -deltadown
39 cumdelta = cum(delta)
40 float ctl = na
41 float o = na
42 float h = na
43 float l = na
44 float c = na
45 if linestyle == 'Candle'
46     o := cumdelta[1]
47     h := max(cumdelta, cumdelta[1])
48     l := min(cumdelta, cumdelta[1])
49     c := cumdelta
50     ctl
51 else
52     ctl := cumdelta
53
```

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plot(ct1, title = "CDV Line", color = color.blue, linewidth = 2)

float haclose = na
float haopen = na
float hahigh = na
float halow = na
haclose := (o + h + l + c) / 4
haopen := na(haopen[1]) ? (o + c) / 2 : (haopen[1] + haclose[1]) / 2
hahigh := max(h, max(haopen, haclose))
halow := min(l, min(haopen, haclose))

c_ = hacandle ? haclose : c
o_ = hacandle ? haopen : o
h_ = hacandle ? hahigh : h
l_ = hacandle ? halow : l

plotcandle(o_, h_, l_, c_, title='CDV Candles', color = o_ <= c_ ? colorup : colordown, bordercolor =

plot(showma1 and linestyle == "Candle" ? sma(c_, ma1len) : na, title = "SMA 1", color = ma1col)
plot(showma2 and linestyle == "Candle" ? sma(c_, ma2len) : na, title = "SMA 2", color = ma2col)
plot(showema1 and linestyle == "Candle" ? ema(c_, ema1len) : na, title = "EMA 1", color = ema1col)
plot(showema2 and linestyle == "Candle" ? ema(c_, ema2len) : na, title = "EMA 2", color = ema2col)
```